AMENDMENTS TO THE CLAIMS

1. (Currently amended) An assay for detecting and identifying one or more micro-organisms in a sample, ~~characterized in that~~wherein said assay comprises ~~the use~~detecting the presence or absence of at least two conserved molecular markers in the sample, thereby identifying one or more microorganisms.

2. (Currently amended) ~~Assay~~ The assay according to claim 1, ~~characterized in that~~wherein said micro-organisms are bacteria.

3. (Currently amended) ~~Assay~~ The assay according to ~~claims 1 or 2~~claim 1, ~~characterized in that~~wherein said assay comprises ~~the use~~detecting the presence or absence of at least one molecular marker that is conserved in Gram-positive bacteria and at least one molecular marker that is conserved in Gram-negative bacteria.

4. (Currently amended) ~~Assay~~ The assay according to ~~any of claims 1 to 3~~claim 3, ~~characterized in that~~wherein said molecular marker that is conserved in Gram-positive bacteria is selected from the group ~~comprising the~~consisting of Spy0160, Spy1372, SpyM3_0902 and SpyM3_0903, and Spy1527 sequences.

5. (Currently amended) ~~Assay~~ The assay according to ~~any of claims 1 to 3~~claim 3, ~~characterized in that~~wherein said molecular maker that is conserved in Gram-positive bacteria is selected from the group ~~comprising the sequences with~~consisting of SEQ ID NOs 1-62, 64-107, 109-111, 117-129, 137, 145-148, 150-193, 233-237, 240-241, 255, 326-395, 397-399, and 404-425.

6. (Currently amended) ~~Assay~~ The assay according to ~~any of claims 1 to 3~~claim 3, ~~characterized in that~~wherein said molecular maker that is conserved in Gram-negative bacteria is selected from the group ~~comprising the~~consisting of Ecs0036, HI1576, EG10839 and EG11396, and HI0019 sequences.

7. (Currently amended) ~~Assay~~ The assay according to ~~any of claims 1 to 3~~claim 3, ~~characterized in that~~wherein said molecular maker that is conserved in Gram-negative bacteria is selected from the group ~~comprising the sequences with~~ consisting of SEQ ID NOs 63, 108, 112-116, 130-136, 138-144, 194-232, 238-239, 242-254, 256-325, 396, 400-403, and 426-461.

8. (Currently amended) ~~Use of an assay according to any of claims 1 to 7~~A method for diagnosing bacterial infection of a sample comprising screening the sample for the presence of at least two conserved molecular markers.

9. (Currently amended)A primer pair for use in the assay of claim 1, suitable for amplifying a molecular marker that is conserved in Gram-positive bacteria and is selected from the group consisting of Spy0160, Spy1372, SpyM3_0902, SpyM3_0903, and Spy1527 sequences; or is selected from the group consisting of SEQ ID NOs 1-62, 64-107, 109-111, 117-129, 137, 145-148, 150-193, 233-237, 240-241, 255, 326-395, 397-399, and 404-425~~as defined in claims 4 or 5~~.

10. (Currently amended)A primer pair for use in the assay of claim 1, suitable for amplifying a molecular marker that is conserved in Gram-negative bacteria and is selected from the group consisting of the Ecs0036, HI1576, EG10839, EG11396, and HI0019 sequences; or is selected from the group consisting of SEQ ID NOs 63, 108, 112-116, 130-136, 138-144, 194-232, 238-239, 242-254, 256-325, 396, 400-403, and 426-461~~as defined in any of claims 6 or 7~~.

11. (Currently amended)A nucleic acid probe for use in the assay of claim 1, capable of hybridizing to a molecular marker that is conserved in Gram-positive bacteria and is selected from the group consisting of Spy0160, Spy1372, SpyM3_0902, SpyM3_0903, and Spy1527 sequences; or is selected from the group consisting of SEQ ID NOs 1-62, 64-107, 109-111, 117-129, 137, 145-148, 150-193, 233-237, 240-241, 255, 326-395, 397-399, and 404-425~~as defined in claims 4 or 5~~.

12. (Currently amended)A nucleic acid probe for use in the assay of claim 1, capable of hybridizing to a molecular marker that is conserved in Gram-negative bacteria and is selected from the group consisting of Ecs0036, HI1576, EG10839, EG11396, and HI0019 sequences; or is selected from the group consisting of SEQ ID NOs 63, 108, 112-116, 130-136, 138-144, 194-232, 238-239, 242-254, 256-325, 396, 400-403, and 426-461~~as defined in claims 6 or 7~~.

13. (Currently amended) A composition for use in the assay of claim 1, comprising:

(i) at least one primer pair suitable for amplifying a molecular marker that is conserved in Gram-positive bacteria and is selected from the group consisting of Spy0160, Spy1372, SpyM3_0902, SpyM3_0903, and Spy1527 sequences; or is selected from the group consisting of SEQ ID NOs 1-62, 64-107, 109-111, 117-129, 137, 145-148, 150-193, 233-237, 240-241, 255, 326-395, 397-399, and 404-425~~as defined in claims 4 or 5~~, and

(ii) at least one primer pair suitable for amplifying a molecular marker that is conserved in Gram-negative bacteria and is selected from the group consisting of Ecs0036, HI1576, EG10839 and EG11396, and HI0019 sequences; or is selected from the group consisting of SEQ ID NOs 63, 108, 112-116, 130-136, 138-144, 194-232, 238-239, 242-254, 256-325, 396, 400-403, and 426-461~~as defined in claims 6 or 7~~.

14. (Currently amended) A composition for use in the assay of claim 1, comprising:

(i) at least one nucleic acid probe capable of hybridizing to a molecular marker that is conserved in Gram-positive bacteria and is selected from the group consisting of Spy0160, Spy1372, SpyM3_0902, SpyM3_0903, and Spy1527 sequences; or is selected from the group consisting of SEQ ID NOs 1-62, 64-107, 109-111, 117-129, 137, 145-148, 150-193, 233-237, 240-241, 255, 326-395, 397-399, and 404-425,~~as defined in claims 4 or 5~~ and

(ii) at least one nucleic acid probe capable of hybridizing to a molecular marker that is conserved in Gram-negative bacteria and is selected from the group consisting of

Ecs0036, HI1576, EG10839, EG11396, and HI0019 sequences; or is selected from the group consisting of SEQ ID NOs 63, 108, 112-116, 130-136, 138-144, 194-232, 238-239, 242-254, 256-325, 396, 400-403, and 426-461~~as defined in claims 6 or 7~~.

15. (Currently amended) A kit for detecting and identifying one or more micro-organisms~~,~~ ~~preferably bacteria,~~ in a sample, which comprises a composition according to claim 13 ~~and/or claim 14~~.

16. (Currently amended) A DNA chip for use in the assay of claim 1, ~~in which~~comprising:

(i) at least one nucleic acid probe capable of hybridizing to a molecular marker that is conserved in Gram-positive bacteria and is selected from the group consisting of Spy0160, Spy1372, SpyM3_0902, SpyM3_0903, and Spy1527 sequences; or is selected from the group consisting of SEQ ID NOs 1-62, 64-107, 109-111, 117-129, 137, 145-148, 150-193, 233-237, 240-241, 255, 326-395, 397-399, and 404-425~~as defined in claims 4 or 5~~, and

(ii) at least one nucleic acid probe capable of hybridizing to a molecular marker that is conserved in Gram-negative bacteria and is selected from the group consisting of the Ecs0036, HI1576, EG10839, EG11396, and HI0019 sequences; or is selected from the group consisting of SEQ ID NOs 63, 108, 112-116, 130-136, 138-144, 194-232, 238-239, 242-254, 256-325, 396, 400-403, and 426-461~~as defined in claims 6 or 7, is~~ , wherein the probes are immobilized on a solid support.

17. (New) A kit for detecting and identifying one or more micro-organisms in a sample, which comprises a composition according to claim 14.

18. (New) The kit according to claim 15, wherein the micro-organisms are bacteria.

19. (New) The kit according to claim 17, wherein the micro-organisms are bacteria.